

DERWENT-ACC-NO: 2000-059514
DERWENT-WEEK: 200210
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TITLE: Metal oxide coating material for anode active material of lithium secondary battery - consists of three different elements of which one is chosen from group containing nickel, cobalt, manganese, calcium, strontium, barium, titanium, vanadium, chromium, iron, copper and aluminum

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PATENT-ASSIGNEE: SAMSUNG DISPLAY DEVICES CO LTD[SMSU], SAMSUNG DENKAN KK[SMSU], SAMSUNG SDI CO LTD[SMSU]

PRIORITY-DATA: 1998KR-0042956 (October 14, 1998) , 1998KR-0003755 (February 10, 1998) , 1998KR-0012005 (April 6, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
KR 277796 B	February 1, 2001	N/A
000	H01M 004/48	
JP 11317230 A	November 16, 1999	N/A
021	H01M 004/58	
CN 1228620 A	September 15, 1999	N/A
000	H01M 004/36	
KR 99071411 A	September 27, 1999	N/A
000	H01M 004/48	
KR 99079408 A	November 5, 1999	N/A
000	H01M 004/48	
SG 82599 A1	August 21, 2001	N/A
000	H01M 004/48	

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
KR 277796B	N/A	
1998KR-0042956	October 14, 1998	
KR 277796B	Previous Publ.	KR 99071411

N/A
 JP 11317230A N/A
 1999JP-0070652 February 10, 1999
 CN 1228620A N/A
 1999CN-0105518 February 10, 1999
 KR 99071411A N/A
 1998KR-0042956 October 14, 1998
 KR 99079408A N/A
 1998KR-0012005 April 6, 1998
 SG 82599A1 N/A
 1999SG-0000508 February 10, 1999

INT-CL (IPC): H01M004/02; H01M004/04 ; H01M004/36 ;
 H01M004/48 ;
 H01M004/50 ; H01M004/52 ; H01M004/58

ABSTRACTED-PUB-NO: JP 11317230A
 BASIC-ABSTRACT: NOVELTY - The metal oxide coated on
 surface of anode active
 material satisfies the formula $\text{LiAl}_{1-x-y}\text{BxCyO}_2$, where A is
 an element chosen
 from the group which consists of Ni, Co and Mn. B is an
 element chosen from
 the group consisting of Ni, Co, Mn, B, Mg, Ca, Sr, Ba,
 Ti, V, Cr, Fe, Cu and
 Al. C is an element chosen from the group consisting of
 Ni, Co, Mn, B, Mg, Ca,
 Sr, Ba, Ti, V, Cr, Fe, Cu and A.

USE - For anode active material of lithium secondary
 battery used as power
 supply for portable electronic machine.

ADVANTAGE - The anode active material increases the
 safety of battery by
 increasing structural and thermal stability. Quantity of
 lithium in the active
 material can be adjusted easily and the life span also
 can be increased.

CHOSEN-DRAWING: Dwg.1/23

TITLE-TERMS:
 METAL OXIDE COATING MATERIAL ANODE ACTIVE MATERIAL
 LITHIUM SECONDARY BATTERY
 CONSIST THREE ELEMENT ONE CHOICE GROUP CONTAIN NICKEL
 COBALT MANGANESE CALCIUM
 STRONTIUM BARIUM TITANIUM VANADIUM CHROMIUM IRON COPPER

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B8;

EPI-CODES: X16-B01F1; X16-E01C1; X16-E01G;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-016316

Non-CPI Secondary Accession Numbers: N2000-046739

DERWENT-ACC-NO: 2001-083371
DERWENT-WEEK: 200110
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TITLE: Lithium secondary battery has composite particle
positive electrode
active material comprising transition metal oxide base
particle coated with
preset metal layers

PATENT-ASSIGNEE: SANYO ELECTRIC CO LTD[SAOL]

PRIORITY-DATA: 1998JP-0227665 (July 27, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 2000048820	February 18, 2000	N/A
007	H01M 004/62	

A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP2000048820A	N/A	
1998JP-0227665	July 27, 1998	

INT-CL (IPC): H01M004/02; H01M004/04 ; H01M004/58 ;
H01M004/62 ;
H01M010/40

ABSTRACTED-PUB-NO: JP2000048820A

BASIC-ABSTRACT: NOVELTY - The battery has non-aqueous
electrolyte which is
mixture of lithium salt and organic solvent, and positive
electrodes (1)
containing composite particle active material. The
composite particle
comprises base particle containing oxides of transition
elements selected from
Co, Ni, M and Fe. The base particle is coated with
conductive layer of metal
chosen from Mg, Al, Ba, Sr, Ca, Zn, Sn, Bi, Ce and/or Yb.

USE - Lithium secondary battery.

ADVANTAGE - Improves charging and discharging cycle characteristics of lithium secondary battery by using positive electrode active material with predefined composite particles.

DESCRIPTION OF DRAWING(S) - The figure shows the sectional view of lithium secondary battery.

Positive electrodes 1

CHOSEN-DRAWING: Dwg.1/1

TITLE-TERMS:

LITHIUM SECONDARY BATTERY COMPOSITE PARTICLE POSITIVE
ELECTRODE ACTIVE MATERIAL
COMPRISE TRANSITION METAL OXIDE BASE PARTICLE COATING
PRESET METAL LAYER

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B8;

EPI-CODES: X16-B01F; X16-E01; X16-E01C; X16-E01G;
X16-E09;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2001-024371

Non-CPI Secondary Accession Numbers: N2001-063698

DERWENT-ACC-NO: 2000-545568
DERWENT-WEEK: 200142
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TITLE: Non-aqueous electrolyte secondary battery for
video camera, has metal
oxide coating on surface of carbon active material of
cathode

PATENT-ASSIGNEE: SHIN KOBE ELECTRIC MACHINERY[KOBE]

PRIORITY-DATA: 1998JP-0177502 (June 24, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 2000012026	January 14, 2000	N/A
004	H01M 004/58	

A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP2000012026A	N/A	
1998JP-0177502	June 24, 1998	

INT-CL_(IPC): H01M004/02; H01M004/58 ; H01M010/40

ABSTRACTED-PUB-NO: JP2000012026A

BASIC-ABSTRACT: NOVELTY - A metallic oxide is coated over
the surface of carbon
used as active material of a negative electrode. The
metal used in metallic
oxide is chosen out of nickel, cobalt, copper, gold,
molybdenum or tungsten.

USE - For use as main or backup power supply in video
camera, portable
telephone set, personal computer, household electric
appliances and for
electric vehicles.

ADVANTAGE - Secondary battery excellent in preservation
property and
charging-discharging cycle is provided.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS:

NON AQUEOUS ELECTROLYTIC SECONDARY BATTERY VIDEO CAMERA
METAL OXIDE COATING
SURFACE CARBON ACTIVE MATERIAL CATHODE

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B3;

EPI-CODES: X16-B01F1; X16-E01C1;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1669U

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-162547

Non-CPI Secondary Accession Numbers: N2000-403637

63
DERWENT-ACC-NO: 2000-381965
DERWENT-WEEK: 200116
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TITLE: Lithium transition metal halide oxides used as
positive electrode
active materials of lithium secondary batteries

PATENT-ASSIGNEE: UBE IND LTD[UBEI]

PRIORITY-DATA: 1998JP-0296266 (October 19, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 3141858 B2	March 7, 2001	N/A
012	C01G 037/06	
JP 2000128539	May 9, 2000	N/A
019	C01G 037/06	

A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP 3141858B2	N/A	
1998JP-0296266	October 19, 1998	
JP 3141858B2	Previous Publ.	JP2000128539
N/A		
JP2000128539A	N/A	
1998JP-0296266	October 19, 1998	

INT-CL (IPC): B22F001/02; C01G037/06 ; C01G045/06 ;
C01G049/10 ;
C01G051/08 ; C01G053/09 ; H01M004/02 ; H01M004/04 ;
H01M004/58 ;
H01M010/40

ABSTRACTED-PUB-NO: JP2000128539A

BASIC-ABSTRACT: NOVELTY - Lithium transition metal halide
oxide is

characterized in that it contains mainly a transition
metal oxide containing
lithium or a transition metal halide oxide containing
lithium, its particle
surfaces are coated with a crystalline metal halide, and
the atomic ratio of

halogen to transition metal is in a certain range.

DETAILED DESCRIPTION - Lithium transition metal halide oxide is characterized in that it contains mainly a transition metal oxide containing lithium or a transition metal halide oxide containing lithium of formula $\text{Li}_a\text{M}_b\text{O}_c\text{X}_d$ (M = at least one metal selected from Cr, Mn, Fe, Co, and Ni, X = at least one halogen, a = greater than or equal to 0.2 and less than or equal to 1.2, b = greater than or equal to 0.8 and less than or equal to 1.2, c = greater than or equal to 1.7 and less than or equal to 2.1, and d = greater than or equal to 0 and less than or equal to 0.3), the particle surfaces of the lithium transition metal halide oxide are coated with a crystalline metal halide of formula NX_e (N = at least one metal selected from Li, Mg, Al, Ca, Ti, V, Cr, Mn, Fe, Co, and Ni, X = at least one halogen, and e = a valence equivalent to that of metal N), the atomic ratio of halogen (X) present on the particle surfaces in the form of a crystalline metal halide to metal (M), X/M , is 0.01-0.5, the atomic ratio of halogen (X) present in the particles in the form of a solid solution substituting oxygen atoms to metal (M), X/M , is at least 0.002, and the ratio of the sum of two kinds of halogen atoms (X) to metal atoms (M), X/M , is 0.02-0.5. INDEPENDENT CLAIMS are also included for the preparation of the lithium transition metal halide oxide and for lithium secondary batteries which use the lithium transition metal halide oxide.

USE - The lithium transition metal halide oxides can be used as positive electrode active materials in lithium secondary batteries.

ADVANTAGE - The lithium transition metal halide oxides obtained have good cycle characteristics even at high temperatures.

CHOSEN-DRAWING: Dwg.0/2

TITLE-TERMS:

LITHIUM TRANSITION METAL HALIDE POSITIVE ELECTRODE ACTIVE
MATERIAL LITHIUM
SECONDARY BATTERY

DERWENT-CLASS: L03 P53 X16

CPI-CODES: L03-E01B5;

EPI-CODES: X16-B01F1; X16-E01C1; X16-E01G;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-116004

Non-CPI Secondary Accession Numbers: N2000-287330